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SUBJECT: IAEA/NA: AGENCY HAS A ROLE IN FIGHTING CLIMATE CHANGE

Summary

11. (U) Though most widely known to the general public as the nuclear nonproliferation watchdog agency, the IAEA is having an increasing impact on environmental policy. Most, if not all, of its activities in this area are focused on marine and terrestrial environmental issues, and are funneled through the IAEA's Monaco Environmental Laboratories (MEL). MEL performs research in both radioactive and non-radioactive marine contamination. Additionally, many technical cooperation (TC) projects help Member States cope with adverse environmental and health effects of climate change, mainly in coastal areas. The Agency is considering hosting a side-event at the 2009 General Conference (GC) that would introduce MEL's research to a broader audience. The IAEA needs to do a better job at showcasing its important, yet little known work in these areas.

Marine and Terrestrial
Environment

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12. (U) The IAEA has two main laboratory facilities - one in Seibersdorf, Austria, and another one in Monaco. The Monaco Environmental Lab is tasked with implementing the agency's activities in environmental and terrestrial environmental protection, also known as Program H. These activities fall under Major Program 2 (Nuclear Applications for Development) in the Agency's budget and operational structure. MEL does work in three broad areas, i.e. radioactive assessments, coastal pollution, and non-radioactive contamination. These are done through one of MEL's three sub-labs. The main goal of the program is to identify and mitigate marine and terrestrial problems caused by both radioactive and non-radioactive pollutants. The program is also part of the UN's Global Program of Action for the Protection of the Marine Environment from Land-Based Activities. Main activities of the program include: radionuclides in oceans and seas, computer modeling of the dispersion of radionuclides, and water and sediment dynamics studies.

Radionuclides

13. (U) Marine radioactivity assessment in the coastal regions and open seas is part of Program H managed through the Radiometrics Laboratory (RML). RML has expertise in the fields of marine radiochemistry, low-level radioactivity measurements, modeling of radionuclide dispersion and transfer in the marine environment, environmental and radiological assessment, radiotracer applications in oceanographic, pollution and climate studies. RML collaborates

with Member States laboratories to carry out research and to implement capacity building Technical Cooperation Projects. Recent projects carried out by the RML include a series of nuclear and isotopic studies of the El Nino phenomenon and a research on nuclear and isotopic techniques for the characterization of submarine groundwater discharge (SGD) in coastal zones.

Coastal Contamination

14. (U) Along with radioactivity assessments, the Agency also develops and uses nuclear techniques to obtain information on the processes involved in the transfer and transport of radionuclides, conventional contaminants, toxic substances and other key elements through the coastal marine ecosystems. The Agency recently has focused on the development of a rapid, radiolabelled toxin assay to mitigate the effect of Harmful Algal Blooms (HAB's), whose poisons can concentrate in shellfish with lethal affects in the human food chain.

15. (U) NA believes that basic knowledge about the fate of marine contaminants is critical to issues of human health and environmental protection. Sound knowledge of radionuclide behavior and transfer processes help Member States to make accurate assessments of the impacts from local nuclear releases and from those contaminants transported into territorial waters from distant sources. In addition, the use of radiotracers to monitor the transport of analogue stable elements and radiolabelled organic compounds offers the ability to discern the behavior and fate of conventional pollutants (e.g. heavy metals, PCB's and pesticides) and the fate of greenhouse gases in the marine environment. As part of the continuing education of Member States, NA worked with the TC

Department to establish a TC project on coastal zone management in Africa. The project helped a number of African countries apply isotope techniques in national phytoplankton monitoring programs. The Agency, in collaboration with the International Oceanographic Commission (IOC), also trains Member States in the use of the receptor binding assay for toxin quantification and in the identification of toxic algae.

Non-Radioactive
Pollution

16. (U) According to Agency research, marine pollution can limit access to coastal resources and even pose a threat to public health.

Non-radioactive pollutants, such as heavy metals, pesticides and oil products, currently have a higher environmental impact than radioactive contaminants. These originate from numerous land-based sources, and trans-boundary issues arise due to the easy transport of contaminants in marine waters. To combat this problem, the Agency helps national laboratory networks obtain harmonized data sets on diverse temporal and spatial scales. It also undertakes research, including the development of isotopic techniques for tracer studies. The Monaco Laboratory is the only UN-family component with operational capabilities in environmental analytical chemistry and pollution assessment of nonradioactive marine contaminants.

ALMERA

17. (U) To support the research and development at MEL, the Agency established a worldwide network of laboratories for environmental radionuclide monitoring, called the ALMERA network. Last year, 11 new laboratories joined, bringing the total number of members to 117 labs in 72 Member States. Through ALMERA, the Agency has organized regular proficiency tests to help network members improve their analytical performance. Comparisons of results obtained in 2006 and 2007 show significant improvement in the accuracy of results obtained for lead-210 and cadmium-107.

Partnerships

18. (U) The Agency collaborates with several regional and international organizations in implementing its climate change activities. The IAEA provides advice and assistance on marine radioactivity to Member States and intergovernmental bodies, such as the Oslo-Paris Commission for Protection of the Marine Environment of the North-Eastern Atlantic (OSPAR), the Helsinki Commission, the Barcelona Convention, and the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). Regionally, it has undertaken joint activities with Member States in the Mediterranean Sea, the Persian Gulf, the Black Sea and Caspian Sea. At the national level, it works directly with laboratories in Member States and provides expertise implementing international conventions, such as the UNEP ban on the use of persistent organic pollutants (POPs) and the IMO convention prohibiting organotin compounds as marine antifoulants. The Agency also provides advice on radioactive contamination in the terrestrial environment to regional and international bodies such as WHO, UNEP, UNDP, IUR and the affected Member States.

Comment

19. (U) For the September 14-18 General Conference, the IAEA is considering hosting a side-event to showcase its work in marine and terrestrial environmental protection. This will provide a rare occasion for the wider public to learn about the Agency's important contributions in climate change issues. In general, however, the Agency has not capitalized on all the communication resources and fora available to increase public awareness of its activities. As a result, this aspect of the Agency's work remains mostly unknown in comparison to its role in safeguards and nonproliferation. Because of the increasing attention Member States pay to the Agency, as well as the unparalleled technical expertise of the organization, the IAEA is uniquely positioned to become a leader in certain technical aspects of climate change. With more adequate staffing at MEL and a more effective public relations presence, the IAEA could better demonstrate the various ways in which nuclear techniques can protect the environment.

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